APPROVED O.G. FIG.
BY GLASS SUBCLASS
DRAFTSMAN

PINS poly-his ——-CNGSHHHHHHH **PPINS** -- KKKRPRKKK ---SgfI IA2 ---KKKRPRKKK--SgfI GAD65 Flag-peptide DYKDDDDK---

FIG. 1a

Not I PPINS poly-his ----KKKRSRKKK ---------CNGSHHHHHHH **PPINS** IA2 -- KKKRSRKKK ---Not I GAD65 Flag-peptide DYKDDDDK---

FIG. 1b

APPROVED O.G. F.G. BY CLASS SUBCLASS DRAFTSMAN

IA2 Underlined aa 771-979 Accession No. L18983

ASPSSHSSTTPSWCEEPAQANMDISTGHMILAYMEDHLRNRDRLAKEWQALCAYQAEPNTCATAQGEGNIKKNRHPDFLPYDH ARIKLKVESSPSRSDYINASPII<u>EHDPRMPAYIATQGPLSHTIADFWQMVWESGCTVIVMLTPLVEDGVKQCDRYWPDEGASLY</u> GSFINISVVGPALTFRIRHNEQNLSLADVTQQAGLVKSELEAQTGLQILQTGVGQREEAAAVLPQTAHSTSPMRSVLLTLVALA MRRPRRPGGLGGSGGLRLLLCLLLLSSRPGGCSAVSAHGCLFDRRLCSHLEVCIQDGLFGQCQVGVGVGQARPLLQVTSPVLQRL **GVAGLLVALAVALCVRQHARQQDKERLAALGPEGAHGDTTFEYQDLCRQHMATKSLFNRAEGPPEPSRVSSVSSQFSDAAQ OGVLRQLMSQGLSWHDDLTQYVISQEMERIPRLRPPEPRPRDRSGLAPKRPGPAGELLLQDIPTGSAPAAQHRLPQPPVGKGG** AGASSSLSPLQAELLPPLLEHLLLPPQPPHPSLSYEPALLQPYLFHQFGSRDGSRVSEGSPGMVSVGPLPKAEAPALFSRTASKGI SSEVOOVPSPVSSEPPKAARPPVTPVLLEKKSPLGQSQPTVAGQPSARPAAEEYGYIVTDQKPLSLAAGVKLLEILAEHVHMSS FGDHPGHSYGDLPGPSPAQLFQDSGLLYLAQELPAPSRARVPRLPEQGSSSRAEDSPEGYEKEGLGDRGEKPASPAVQPDAAL QRLAAVLAGYGVELRQLTPEQLSTLLTLQLLPKGAGRNPGGVVNVGADIKKTMEGPVEGRDTAELPARTSPMPGHPTASPT HVYEVNLVSEHIWCEDFLVRSFYLKNVOTOETRTLTOFHFLSWPAEGTPASTRPLLDFRRKVNKCYRGRSCPIIVHCSDGAGR TGTYILIDMVLNRMAKGVKEIDIAATLEHVRDORPGLVRSKDOFEFALTAVAEEVNAILKALPO

FIG. 2a

GAD65 Underlined aa102-585 Accession No. M74826

<u>LVSATAGTTVYGAFDPLLAVADICKKYKIWMHVDAAWGGGLLMSRKHKWKLSGVERANSVTWNPHKMMGVPLQCSALLV</u> MASPGSGFWSFGSEDGSGDSENPGTARAWCQVAQKFTGGIGNKLCALLYGDAEKPAESGGSQPPRAAARKAACACDQKPCS <u>NMYAMMIARFKMFPEVKEKGMAALPRLIAFTSEHSHFSLKKGAAALGIGTDSVILIKCDERGKMIPSDLERRILEAKQKGFVPF</u> CSKVDVNYAFLHATDLLPA<u>CDGERPTLAFLQDVMNILLQYVVKSFDRSTKVIDFHYPNELLQEYNWELADOPONLEEILMH</u>C REEGLMONCNOMHASYLFQQDKHYDLSYDTGDKALQCGRHVDVFKLWLMWRAKGTTGFEAHVDKCLELAEYLYNIIKNR <u>OTTLKYAIKTGHPRYFNQLSTGLDMVGLAADWLTSTANTNMFTYEIAPVFVLLEYVTLKKMREIIGWPGGSGDGIFSPGGAIS</u> <u>EGYEMVFDGKPOHTNVCFWYIPPSLRTLEDNEERMSRLSKVAPVIKARMMEYGTTMVSYOPLGDKVNFFRMVISNPAATHO</u> DIDFLIEEIERLGODI FIG. 2b

Translation Human preproinsulin. EMBL accession nr. v00565

MALWMRLLPLLALLALWGPDPAAAFVNQHLCGSHLVEALYLVCGERGFFYT PKTRREAEDLQVGQVELGGGPGAGSLQPLALEGSLQKRGIVEQCCTSICSLYQ

FIG. 2c



Human GAD65 nucleotide sequence

M74826 Length: 2457 September 1, 1995 12:22 Type: N Check: 8038 ..

1 ACCCGCCCTC GCCGCTCGGC CCCGCGCGTC CCCGCGCGTG CCCTCCCCC 101 AGCTCGCACT CGCTGGCGAC CTGCTCCAGT CTCCAAAGCC GATGGCATCT 151 CCGGGCTCTG GCTTTTGGTC TTTCGGGTCG GAAGATGGCT CTGGGGATTC 201 CGAGAATCCC GGCACAGCGC GAGCCTGGTG CCAAGTGGCT CAGAAGTTCA 251 CGGGCGCAT CGGAAACAAA CTGTGCGCCC TGCTCTACGG AGACGCCGAG 301 AAGCCGGCGG AGAGCGGCGG GAGCCAACCC CCGCGGGCCG CCGCCCGGAA 351 GGCCGCCTGC GCCTGCGACC AGAAGCCCTG CAGCTGCTCC AAAGTGGATG 401 TCAACTACGC GTTTCTCCAT GCAACAGACC TGCTGCCGGC GTGTGATGGA 451 GAAAGGCCCA CTTTGGCGTT TCTGCAAGAT GTTATGAACA TTTTACTTCA 501 GTATGTGGTG AAAAGTTTCG ATAGATCAAC CAAAGTGATT GATTTCCATT 551 ATCCTAATGA GCTTCTCCAA GAATATAATT GGGAATTGGC AGACCAACCA 601 CAAAATTTGG AGGAAATTTT GATGCATTGC CAAACAACTC TAAAATATGC 651 AATTAAAACA GGGCATCCTA GATACTTCAA TCAACTTTCT ACTGGTTTGG 701 ATATGGTTGG ATTAGCAGCA GACTGGCTGA CATCAACAGC AAATACTAAC 751 ATGTTCACCT ATGAAATTGC TCCAGTATTT GTGCTTTTGG AATATGTCAC 801 ACTAAAGAAA ATGAGAGAAA TCATTGGCTG GCCAGGGGGC TCTGGCGATG 851 GGATATTTC TCCCGGTGGC GCCATATCTA ACATGTATGC CATGATGATC 901 GCACGCTTTA AGATGTTCCC AGAAGTCAAG GAGAAAGGAA TGGCTGCTCT 951 TCCCAGGCTC ATTGCCTTCA CGTCTGAACA TAGTCATTTT TCTCTCAAGA 1001 AGGGAGCTGC AGCCTTAGGG ATTGGAACAG ACAGCGTGAT TCTGATTAAA 1051 TGTGATGAGA GAGGGAAAAT GATTCCATCT GATCTTGAAA GAAGGATTCT 1101 TGAAGCCAAA CAGAAAGGGT TTGTTCCTTT CCTCGTGAGT GCCACAGCTG 1151 GAACCACCGT GTACGGAGCA TTTGACCCCC TCTTAGCTGT CGCTGACATT 1201 TGCAAAAGT ATAAGATCTG GATGCATGTG GATGCAGCTT GGGGTGGGGG

1251 ATTACTGATG TCCCGAAAAC ACAAGTGGAA ACTGAGTGGC GTGGAGAGGG

APPROVED O.G. FIG.
BY CLASS SUBCLASS
DRAFTSMAN

1301 CCAACTCTGT GACGTGGAAT CCACACAGA TGATGGGAGT CCCTTTGCAG 1351 TGCTCTGCTC TCCTGGTTAG AGAAGAGGGA TTGATGCAGA ATTGCAACCA 1401 AATGCATGCC TCCTACCTCT TTCAGCAAGA TAAACATTAT GACCTGTCCT 1451 ATGACACTGG AGACAAGGCC TTACAGTGCG GACGCCACGT TGATGTTTTT 1501 AAACTATGGC TGATGTGGAG GGCAAAGGGG ACTACCGGGT TTGAAGCGCA 1551 TGTTGATAAA TGTTTGGAGT TGGCAGAGTA TTTATACAAC ATCATAAAAA 1601 ACCGAGAAGG ATATGAGATG GTGTTTGATG GGAAGCCTCA GCACACAAAT 1651 GTCTGCTTCT GGTACATTCC TCCAAGCTTG CGTACTCTGG AAGACAATGA 1701 AGAGAGAATG AGTCGCCTCT CGAAGGTGGC TCCAGTGATT AAAGCCAGAA 1751 TGATGGAGTA TGGAACCACA ATGGTCAGCT ACCAACCCTT GGGAGACAAG 1801 GTCAATTTCT TCCGCATGGT CATCTCAAAC CCAGCGGCAA CTCACCAAGA 1851 CATTGACTTC CTGATTGAAG AAATAGAACG CCTTGGACAA GATTTATAAT 1901 AACCTTGCTC ACCAAGCTGT TCCACTTCTC TAGAGAACAT GCCCTCAGCT 1951 AAGCCCCTA CTGAGAAACT TCCTTTGAGA ATTGTGCGAC TTCACAAAAT 2001 GCAAGGTGAA CACCACTTTG TCTCTGAGAA CAGACGTTAC CAATTATGGA 2051 GTGTCACCAG CTGCCAAAAT CGTAGGTGTT GGCTCTGCTG GTCACTGGAG 2101 TAGTTGCTAC TCTTCAGAAT ATGGACAAAG AAGGCACAGG TGTAAATATA 2151 GTAGCAGGAT GAGGAACCTC AAACTGGGTA TCATTTGCAC GTGCTCTTCT 2201 GTTCTCAAAT GCTAAATGCA AACACTGTGT ATTTATTAGT TAGGTGTGCC 2251 AAACTACCGT TCCCAAATTG GTGTTTCTGA ATGACATCAA CATTCCCCCA 2301 ACATTACTCC ATTACTAAAG ACAGAAAAAA ATAAAAACAT AAAATATACA 2351 AACATGTGGC AACCTGTTCT TCCTACCAAA TATAAACTTG TGTATGATCC 2401 AAGTATTTTA TCTGTGTTGT CTCTCTAAAC CCAAATAAAT GTGTAAATGT 2451 GGACACA



Human IA-2 nucleotide sequence

L18983 Length: 3613 November 20, 1997 16:45 Type: N Check: 6409 ...

APPROVED O.G. FIG.
BY CLASS SUBCLASS
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1 CAGCCCCTCT GGCAGGCTCC CGCCAGCGTC GCTGCGGCTC CGGCCCGGGA 51 GCGAGCGCCC GGAGCTCGGA AAGATGCGGC GCCCGCGGCG GCCTGGGGGGT 101 CTCGGGGGAT CCGGGGTCT CCGGCTGCTC CTCTGCCTCC TGCTGCTGAG 151 CAGCCGCCG GGGGGCTGCA GCGCCGTTAG TGCCCACGGC TGTCTATTTG 201 ACCGCAGGCT CTGCTCTCAC CTGGAAGTCT GTATTCAGGA TGGCTTGTTT 251 GGGCAGTGCC AGGTGGGAGT GGGGCAGGCC CGGCCCCTTT TGCAAGTCAC 301 CTCCCCAGTT CTCCAACGCT TACAAGGTGT GCTCCGACAA CTCATGTCCC 351 AAGGATTGTC CTGGCACGAT GACCTCACCC AGTATGTGAT CTCTCAGGAG 401 ATGGAGCGCA TCCCCAGGCT TCGCCCCCA GAGCCCCGTC CAAGGGACAG 451 GTCTGGCTTG GCACCCAAGA GACCTGGTCC TGCTGGAGAG CTGCTTTTAC 501 AGGACATCCC CACTGGCTCC GCCCCTGCTG CCCAGCATCG GCTTCCACAA 551 CCACCAGTGG GCAAAGGTGG AGCTGGGGCC AGCTCCTCTC TGTCCCCTCT 601 GCAGGCTGAG CTGCTCCGC CTCTCTTGGA GCACCTGCTG CTGCCCCCAC 651 AGCCTCCCA CCCTTCACTG AGTTACGAAC CTGCCTTGCT GCAGCCCTAC 701 CTGTTCCACC AGTTTGGCTC CCGTGATGGC TCCAGGGTCT CAGAGGGCTC 751 CCCAGGGATG GTCAGTGTCG GCCCCTGCC CAAGGCTGAA GCCCCTGCCC 801 TCTTCAGCAG AACTGCCTCC AAGGGCATAT TTGGGGACCA CCCTGGCCAC 851 TCCTACGGGG ACCTTCCAGG GCCTTCACCT GCCCAGCTTT TTCAAGACTC 901 TGGGCTGCTC TATCTGGCCC AGGAGTTGCC AGCACCCAGC AGGGCCAGGG 951 TGCCAAGGCT GCCAGAGCAA GGGAGCAGCA GCCGGGCAGA GGACTCCCCA 1001 GAGGGCTATG AGAAGGAAGG ACTAGGGGAT CGTGGAGAGA AGCCTGCTTC 1051 CCCAGCTGTG CAGCCAGATG CGGCTCTGCA GAGGCTGGCC GCTGTGCTGG 1101 CGGGCTATGG GGTAGAGCTG CGTCAGCTGA CCCCTGAGCA GCTCTCCACA 1151 CTCCTGACCC TGCTGCAGCT ACTGCCCAAG GGTGCAGGAA GAAATCCGGG 1201 AGGGGTTGTA AATGTTGGAG CTGATATCAA GAAAACAATG GAGGGGCCGG 1251 TGGAGGGCAG AGACACAGCA GAGCTTCCAG CCCGCACATC CCCCATGCCT



1301 GGACACCCCA CTGCCAGCCC TACCTCCAGT GAAGTCCAGC AGGTGCCAAG 1351 CCCTGTCTCC TCTGAGCCTC CCAAAGCTGC CAGACCCCCT GTGACACCTG 1401 TCCTGCTAGA GAAGAAAAGC CCACTGGGCC AGAGCCAGCC CACGGTGGCA 1451 GGACAGCCCT CAGCCCGCCC AGCAGCAGAG GAATATGGCT ACATCGTCAC 1501 TGATCAGAAG CCCCTGAGCC TGGCTGCAGG AGTGAAGCTG CTGGAGATCC 1551 TGGCTGAGCA TGTGCACATG TCCTCAGGCA GCTTCATCAA CATCAGTGTG 1601 GTGGGACCAG CCCTCACCTT CCGCATCCGG CACAATGAGC AGAACCTGTC 1651 TTTGGCTGAT GTGACCCAAC AAGCAGGGCT GGTGAAGTCT GAACTGGAAG 1701 CACAGACAGG GCTCCAAATC TTGCAGACAG GAGTGGGACA GAGGGAGGAG 1751 GCAGCTGCAG TCCTTCCCCA AACTGCGCAC AGCACCTCAC CCATGCGCTC 1801 AGTGCTGCTC ACTCTGGTGG CCCTGGCAGG TGTGGCTGGG CTGCTGGTGG 1851 CTCTGGCTGT GGCTCTGTGT GTGCGGCAGC ATGCGCGGCA GCAAGACAAG 1901 GAGCGCCTGG CAGCCCTGGG GCCTGAGGGG GCCCATGGTG ACACTACCTT 1951 TGAGTACCAG GACCTGTGCC GCCAGCACAT GGCCACGAAG TCCTTGTTCA 2001 ACCGGGCAGA GGGTCCACCG GAGCCTTCAC GGGTGAGCAG TGTGTCCTCC 2051 CAGTTCAGCG ACGCAGCCCA GGCCAGCCCC AGCTCCCACA GCAGCACCCC 2101 GTCCTGGTGC GAGGAGCCGG CCCAAGCCAA CATGGACATC TCCACGGGAC 2151 ACATGATTCT GGCATACATG GAGGATCACC TGCGGAACCG GGACCGCCTT 2201 GCCAAGGAGT GGCAGGCCCT CTGTGCCTAC CAAGCAGAGC CAAACACCTG 2251 TGCCACCGCG CAGGGGGAGG GCAACATCAA AAAGAACCGG CATCCTGACT 2301 TCCTGCCCTA TGACCATGCC CGCATAAAAC TGAAGGTGGA GAGCAGCCCT 2351 TCTCGGAGCG ATTACATCAA CGCCAGCCCC ATTATTGAGC ATGACCCTCG 2401 GATGCCAGCC TACATAGCCA CGCAGGGCCC GCTGTCCCAT ACCATCGCAG 2451 ACTTCTGGCA GATGGTGTGG GAGAGCGGCT GCACCGTCAT CGTCATGCTG 2501 ACCCGCTGG TGGAGGATGG TGTCAAGCAG TGTGACCGCT ACTGGCCAGA 2551 TGAGGGTGCC TCCCTCTACC ACGTATATGA GGTGAACCTG GTGTCGGAGC 2601 ACATCIGGTG CGAGGACTTT CTGGTGCGGA GCTTCTACCT GAAGAACGTG 2651 CAGACCCAGG AGACGCGCAC GCTCACGCAG TTCCACTTCC TCAGCTGGCC

AFPROVED O.G. FIG.

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2701 GGCAGAGGC ACACCGGCCT CCACGCGGCC CCTGCTGGAC TTCCGCAGGA 2751 AGGTGAACAA GTGCTACCGG GGCCGCTCCT GCCCCATCAT CGTGCACTGC 2801 AGTGATGGTG CGGGGAGGAC CGGCACCTAC ATCCTCATCG ACATGGTCCT 2851 GAACCGCATG GCAAAAGGAG TGAAGGAGAT TGACATCGCT GCCACCCTGG 2901 AGCATGTCCG TGACCAGCGG CCTGGCCTTG TCCGCTCTAA GGACCAGTTT 2951 GAATTTGCCC TGACAGCCGT GGCGGAGGAA GTGAATGCCA TCCTCAAGGC 3001 CCTGCCCAG TGAGACCCTG GGGCCCCTTG GCGGGCAGCC CAGCCTCTGT 3051 CCCTCTTTGC CTGTGTGAGC ATCTCTGTGT ACCCACTCCT CACTGCCCCA 3101 CCAGCCACCT CTTGGGCATG CTCAGCCCTT CCTAGAAGAG TCAGGAAGGG 3151 AAAGCCAGAA GGGGCACGCC TGCCCAGCCT CGCATGCCAG AGCCTGGGGC 3201 ATCCCAGAGC CCAGGGCATC CCATGGGGGT GCTGCAGCCA GGAGGAGAGG 3251 AAAGGACATG GGTAGCAATT CTACCCAGAG CCTTCTCCTG CCTACATTCC 3301 CTGGCCTGGC TCTCCTGTAG CTCTCCTGGG GTTCTGGGAG TTCCCTGAAC 3351 ATCTGTGTGT GTCCCCCTAT GCTCCAGTAT GGAAGAATGG GGTGGAGGGT 3401 CGCCACACCC GGCTCCCCCT GCTTCTCAGC CCCGGGCCTG CCTCTGACTC 3451 ACACTTGGGC GCTCTGCCCT CCCTGGCCTC ACGCCCAGCC TGGTCCCACC 3501 ACCCTCCCAC CATGCGCTGC TCAACCTCTC TCCTTCTGGC GCAAGAGAAC 3551 ATTTCTAGAA AAAACTACTT TTGTACCAGT GTGAATAAAG TTAGTGTGTT 3601 GTCTGTGCAG CTG

FIG. 3e



PREPROINSULIINI

Exon sequences, i.e. sequences to be used in the patent are underlined and represent exon sequences. V00565 Length: 4992 December 18, 1997 17:50 Type: N Check: 9721 ..

PROVED O.G. FIG. BY CLASS SUBCLASS AFTSMAN

1 CTCGAGGGGC CTAGACATTG CCCTCCAGAG AGAGCACCCA ACACCCTCCA 51 GGCTTGACCG GCCAGGGTGT CCCCTTCCTA CCTTGGAGAG AGCAGCCCCA 101 GGGCATCCTG CAGGGGGTGC TGGGACACCA GCTGGCCTTC AAGGTCTCTG 151 CCTCCTCCA GCCACCCCAC TACACGCTGC TGGGATCCTG GATCTCAGCT 201 CCCTGGCCGA CAACACTGGC AAACTCCTAC TCATCCACGA AGGCCCTCCT 251 GGGCATGGTG GTCCTTCCCA GCCTGGCAGT CTGTTCCTCA CACACCTTGT 301 TAGTGCCCAG CCCTGAGGT TGCAGCTGGG GGTGTCTCTG AAGGGCTGTG 351 AGCCCCAGG AAGCCCTGGG GAAGTGCCTG CCTTGCCTCC CCCCGGCCCT 401 GCCAGCGCT GGCTCTGCCC TCCTACCTGG GCTCCCCCCA TCCAGCCTCC 451 CTCCCTACAC ACTCCTCTA AGGAGGCACC CATGTCCTCT CCAGCTGCCG 501 GGCCTCAGAG CACTGTGGCG TCCTGGGGCA GCCACCGCAT GTCCTGCTGT 551 GGCATGGCTC AGGGTGGAAA GGGCGGAAGG GAGGGGTCCT GCAGATAGCT 601 GGTGCCCACT ACCAAACCCG CTCGGGGCAG GAGAGCCAAA GGCTGGGTGT 651 GTGCAGAGCG GCCCGAGAG GTTCCGAGGC TGAGGCCAGG GTGGGACATA 701 GGGATGCGAG GGGCCGGGGC ACAGGATACT CCAACCTGCC TGCCCCCATG 751 GTCTCATCCT CCTGCTTCTG GGACCTCCTG ATCCTGCCCC TGGTGCTAAG 801 AGGCAGGTAA GGGGCTGCAG GCAGCAGGGC TCGGAGCCCA TGCCCCCTCA 851 CCATGGGTCA GGCTGGACCT CCAGGTGCCT GTTCTGGGGA GCTGGGAGGG 901 CCGGAGGGT GTACCCCAGG GGCTCAGCCC AGATGACACT ATGGGGGTGA 951 TGGTGTCATG GGACCTGGCC AGGAGAGGGG AGATGGGCTC CCAGAAGAGG 1001 AGTGGGGGCT GAGAGGGTGC CTGGGGGGCC AGGACGGAGC TGGGCCAGTG 1051 CACAGCTTCC CACACCTGCC CACCCCCAGA GTCCTGCCGC CACCCCCAGA 1101 TCACACGGAA GATGAGGTCC GAGTGGCCTG CTGAGGACTT GCTGCTTGTC 1151 CCCAGGTCCC CAGGTCATGC CCTCCTTCTG CCACCCTGGG GAGCTGAGGG 1201 CCTCAGCTGG GGCTGCTGTC CTAAGGCAGG GTGGGAACTA GGCAGCCAGC 1251 AGGGAGGGA CCCCTCCCTC ACTCCCACTC TCCCACCCCC ACCACCTTGG 1301 CCCATCCATG GCGCCATCTT GGGCCATCCG GGACTGGGGA CAGGGGTCCT 1351 GGGGACAGGG GTCCGGGGAC AGGGTCCTGG GGACAGGGGT GTGGGGACAG APPROVED O.G. FIG.

BY CLASS SUBCLASS

DRAFTSWAN

1401 GGGTCTGGGG ACAGGGGTGT GGGGACAGGG GTGTGGGGAC AGGGGTCTGG 1451 GGACAGGGT GTGGGGACAG GGGTCCGGGG ACAGGGGTGT GGGGACAGGG 1501 GTCTGGGGAC AGGGGTGTGG GGACAGGGGT GTGGGGACAG GGGTCTGGGG 1551 ACAGGGGTGT GGGGACAGGG GTCCTGGGGA CAGGGGTGTG GGGACAGGGG 1601 TGTGGGGACA GGGGTGTGGG GACAGGGGTG TGGGGACAGG GGTCCTGGGG 1651 ATAGGGGTGT GGGGACAGGG GTGTGGGGAC AGGGGTCCCG GGGACAGGGG 1701 TGTGGGGACA GGGGTGTGGG GACAGGGGTC CTGGGGACAG GGGTCTGAGG 1751 ACAGGGGTGT GGGCACAGGG GTCCTGGGGA CAGGGGTCCT GGGGACAGGG 1801 GTCCTGGGGA CAGGGGTCTG GGGACAGCAG CGCAAAGAGC CCCGCCCTGC 1851 AGCCTCCAGC TCTCCTGGTC TAATGTGGAA AGTGGCCCAG GTGAGGGCTT 1901 TGCTCTCCTG GAGACATTTG CCCCCAGCTG TGAGCAGGGA CAGGTCTGGC 1951 CACCGGGCCC CTGGTTAAGA CTCTAATGAC CCGCTGGTCC TGAGGAAGAG 2001 GTGCTGACGA CCAAGGAGAT CTTCCCACAG ACCCAGCACC AGGGAAATGG 2051 TCCGGAAATT GCAGCCTCAG CCCCCAGCCA TCTGCCGACC CCCCACCCC 2101 GCCCTAATGG GCCAGGCGGC AGGGGTTGAC AGGTAGGGGA GATGGGCTCT 2151 GAGACTATAA AGCCAGCGG GGCCCAGCAG CCCTCAGCCC TCCAGGACAG 2201 GCTGCATCAG AAGAGGCCAT CAAGCAGGTC TGTTCCAAGG GCCTTTGCGT 2251 CAGGTGGGCT CAGGGTTCCA GGGTGGCTGG ACCCCAGGCC CCAGCTCTGC 2301 AGCAGGGAGG ACGTGGCTGG GCTCGTGAAG CATGTGGGGG TGAGCCCAGG 2351 GGCCCAAGG CAGGGCACCT GGCCTTCAGC CTGCCTCAGC CCTGCCTGTC 2401 TCCCAGATCA CTGTCCTTCT GCC<u>ATGGCCC TGTGGATGCG CCTCCTGCCC</u> 2451 CTGCTGGCGC TGCTGGCCCT CTGGGGACCT GACCCAGCCG CAGCCTTTGT 2501 GAACCAACAC CTGTGCGGCT CACACCTGGT GGAAGCTCTC TACCTAGTGT 2551 GCGGGGAACG AGGCTTCTTC TACACACCCA AGACCCGCCG GGAGGCAGAG 2601 GACCTGCAGG GTGAGCCAAC CGCCCATTGC TGCCCCTGGC CGCCCCAGC 2651 CACCCCTGC TCCTGGCGCT CCCACCCAGC ATGGGCAGAA GGGGGCAGGA 2701 GGCTGCCACC CAGCAGGGGG TCAGGTGCAC TTTTTTAAAA AGAAGTTCTC 2751 TTGGTCACGT CCTAAAAGTG ACCAGCTCCC TGTGGCCCAG TCAGAATCTC 2801 AGCCTGAGGA CGGTGTTGGC TTCGGCAGCC CCGAGATACA TCAGAGGGTG 2851 GGCACGCTCC TCCCTCCACT CGCCCCTCAA ACAAATGCCC CGCAGCCCAT

APPHOVED O.G. F.IG.
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2901 TTCTCCACCC TCATTTGATG ACCGCAGATT CAAGTGTTTT GTTAAGTAAA 2951 GTCCTGGGTG ACCTGGGGTC ACAGGGTGCC CCACGCTGCC TGCCTCTGGG 3001 CGAACACCCC ATCACGCCCG GAGGAGGGCG TGGCTGCCTG CCTGAGTGGG 3051 CCAGACCCCT GTCGCCAGCC TCACGGCAGC TCCATAGTCA GGAGATGGGG 3101 AAGATGCTGG GGACAGGCCC TGGGGAGAAG TACTGGGATC ACCTGTTCAG 3151 GCTCCCACTG TGACGCTGCC CCGGGGCGGG GGAAGGAGGT GGGACATGTG 3201 GGCGTTGGGG CCTGTAGGTC CACACCCAGT GTGGGTGACC CTCCCTCTAA 3251 CCTGGGTCCA GCCCGGCTGG AGATGGGTGG GAGTGCGACC TAGGGCTGGC 3301 GGGCAGGCGG GCACTGTGTC TCCCTGACTG TGTCCTCCTG TGTCCCTCTG 3351 CCTCGCCGCT GTTCCGGAAC CTGCTCTGCG CGGCACGTCC TGGCAGTGGG 3401 GCAGGTGGAG CTGGGCGGGG GCCCTGGTGC AGGCAGCCTG CAGCCCTTGG 3451 CCCTGGAGGG GTCCCTGCAG AAGCGTGGCA TTGTGGAACA ATGCTGTACC 3501 AGCATCTGCT CCCTCTACCA GCTGGAGAAC TACTGCAACT AGACGCAGCC 3551 TGCAGGCAGC CCCACACCCG CCGCCTCCTG CACCGAGAGA GATGGAATAA 3601 AGCCCTTGAA CCAGCCCTGC TGTGCCGTCT GTGTGTCTTG GGGGCCCTGG 3651 GCCAAGCCC ACTTCCCGGC ACTGTTGTGA GCCCCTCCCA GCTCTCTCCA 3701 CGCTCTCTGG GTGCCCACAG GTGCCAACGC CAGGCAGGCC CAGCATGCAG 3751 TGGCTCTCCC CAAAGCGGCC ATGCCTGTTG GCTGCCTGCT GCCCCCACCC 3801 TGTGGCTCAG GGTCCAGTAT GGGAGCTTCG GGGGTCTCTG AGGGGCCAGG 3851 GATGGTGGGG CCACTGAGAA GTGACTCTGT CAGTAGCCGA CCTGGAGTCC 3901 CCAGAGACCT TGTTCAGGAA AGGGAATGAG AACATTCCAG CAATTTTCCC 3951 CCCACCTAGC CCTCCCAGGT TCTATTTTTA GAGTTATTTC TGATGGAGTC 4001 CCTGTGGAGG GAGGAGGCTG GGCTGAGGGA GGGGGTCCTG CAGGGCGGGG 4051 GGCTGGGAAG GTGGGGAGAG GCTGCCGAGA GCCACCCGCT ATCCCCAGCT 4101 CTGGGCAGCC CCGGGACAGT CACACACCCT GGCCTCGCGG CCCAAGCTGG 4151 CAGCCGTCTG CAGCCACAGC TTATGCCAGC CCAGGTCCAG CCAGACACCT 4201 GAGGGACCCA CTGGTGCCTT GGAGGAAGCA GGAGAGGTCA GATGGCACCA 4251 TGAGCTGGGG CAGGTGCAGG GACCGTGGCA GCACCTGGCA GGGCCTCAGA 4301 ACCCATGCCT TGGGCACCCC GGCCATGAGG CCCTGAGGAT TGCAGCCCAA 4351 GAGAAGCAGG GAACGCCAGG GCCACAGGGG CAGAGACCAG GCCAGGGTCC 4401 CTTGCGGCCC TTAGCCCACC CCCTCCAGT AAGCAGGGGC TGCTTGGCTA
4451 GGCTTCCTTT TGCTACAGAC CTGCTGCTCA CCCAGAGGCC CACGGGCCCT
4501 AGTGACAAGG TCGTTGTGGC TCCAGGTCCT TGGGGGTCCT GACACAGAGC
4551 CTCTTCTGCA GCACCCCTGA GGACAGGGTG CTCCGCTGGG CACCCAGCCT
4601 AGTGGGCAGA CGAGAACCTA GGGGCTGCCT GGGCCTACTG TGGCCTGGGA
4651 GGTCAGCGGG TGACCCTAGC TACCCTGTGG CTGGGCCAGT CTGCCTGCCA
4701 CCCAGGCCAA ACCAATCTGC ACCTTTCCTG AGAGCTCCAC CCAGGGCTGG
4751 GCTGGGGATG GCTGGGCCTG GGGCTGGCAT GGGCTGTGGC TGCAGACCAC
4801 TGCCAGCTTG GGCCTCGAGG CCAGGAGCTC ACCCTCCAGC TGCCCCGCCT
4851 CCAGAGTGGG GGCCAGGGCT GGGCAGGCGG GTGGACGGCC GGACACTGGC
4901 CCCGGAAGAG GAGGGAGGCG GTGGCTGGGA TCGGCAGCAG CCGTCCATGG
4951 GAACACCCAG CCGGCCCCAC TCGCACGGGT AGAGACAGGC GC

FIG. 3i

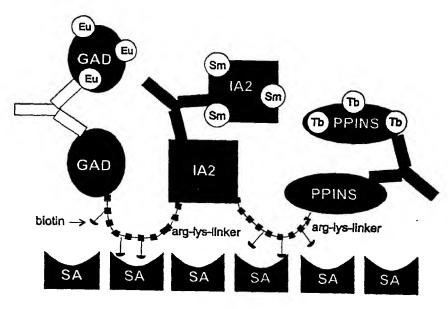


FIG. 4

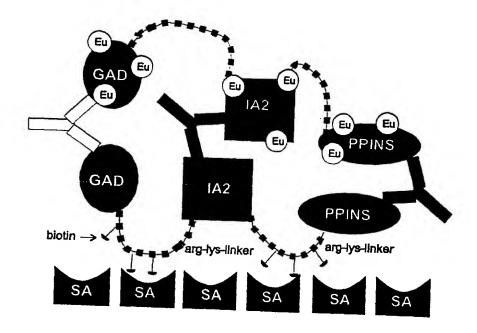


FIG. 5